

# The Bean Bag

**A newsletter to promote communication among research scientists concerned with the systematics of the Leguminosae/Fabaceae**

Number 48

November 2000

## From the Editor

Barbara Mackinder

*The Bean Bag* is designed to promote communication among research scientists concerned with legume systematics. To achieve this goal *The Bean Bag* is issued in November of each year and features six columns: From the Editor, News (meetings, major events, announcements, etc.), Latin American Legume Report, Nodulation and Nitrogen Fixation (new nodulation records), Gleanings, and Recent Legume Literature. Data in the Gleanings column are derived from questionnaire sheets which Readers complete and return. If you have news about legume systematics, send it to us for this column. The Recent Legume Literature column contains published research papers of specific interest to Bean Bag Readers and is derived from Readers contributions in conjunction with references from The Kew Record (Kew's current awareness list of taxonomic literature). Recent is defined as up to 18 months old. Specific interest to Bean Bag Readers is defined as research papers of interest to a worldwide group of legume systematic botanists. Bean Bag Readers are encouraged to send notices, observations, etc.

*The Bean Bag* can be delivered to readers via e-mail. If you wish to have your copies e-mailed to you, please send an email message to the editor (email: [b.mackinder@rbgkew.org.uk](mailto:b.mackinder@rbgkew.org.uk)). Will new readers please provide their title, first and last names, full postal address and area(s) of interest.

Electronic copies of the current and past issues of Bean Bag and directories can be viewed on the World Wide Web server of the Royal Botanic Gardens, Kew, UK at <http://www.rbgkew.org.uk/herbarium/legumes/beanbag.html>

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## NEWS

### **“Legumes Down Under” Fourth International Legume Conference**

**Australian National University, Canberra, Australia, 2-6 July, 2001.**

Mike Crisp

#### **Scientific program**

Planning for the conference is well advanced. A program of symposia has been planned (see below), and the organisers of each symposium are currently contacting potential speakers. Each symposium will include a mix of invited and contributed papers. A call for contributed papers will go out with the Registration Brochure, which will be mailed in February 2001. It may not be possible to accept all contributed papers; however, we will provide for large poster sessions

#### **Highlights**

We are pleased to announce that the leading Australian botanist, **Professor Adrienne Clark**, will deliver a public lecture on the evening of Tuesday, July 3<sup>rd</sup>, entitled "Risks and benefits from genetically modified crops".

The conference will commence with a plenary presentation synthesizing recent work by several collaborators on the **phylogeny of the family**. This will be the most detailed phylogenetic tree yet presented for the legumes. The research towards this presentation is being coordinated by Marty Wojciechowski of the University of California.

On Sunday, July 1<sup>st</sup>, there will be a **pre-conference social event**, combined with a conference art show, at the Australian Academy of Science in Canberra.

#### **Field trips**

We will offer a number of field trips, varying from a half day to several days:

- Cape York Peninsula, including wet tropics – Pre-Conference
  - Central Australia – Post-Conference
  - New South Wales Coastal – Post-Conference
  - Western Australia "Acacia & Wildflowers" – 3 days Post-Conference
  - Tidbinbilla Nature Reserve -- Wednesday July 4 – half day
- Whether all these trips go ahead will depend upon sufficient delegates expressing interest.

#### **Costs and accommodation**

We are not yet able to announce registration fees and other costs, as these will depend upon the amount of sponsorship money that we are able to obtain. We have booked a range of accommodations from university halls of residence to five-star hotels. We will be able to offer limited assistance towards travel costs, depending upon the outcome of some grant applications. Concessional registration fees will be available to students. Announcements of these details will appear on the web site (URL on page 4) and in the Registration Brochure.

#### **Canberra**

Canberra is the national capital of Australia. It has a population of 310,000, and it is an important base for legume research and education. Canberra is also a beautiful city. Its character as a "city of light and space", a contemporary garden-city, makes it a major tourist destination. Attractions include its scenic landscapes, lakes, parks and hills, as well as its impressive public buildings, such as New Parliament House, the National Library, the National Gallery, the Australian War Memorial and the Australian Academy of Science. Canberra is only a 2-hour drive from either the Snowy Mountains or the South Coast of New South Wales. Though cool in July, Canberra's winter days are nearly always crisp and clear with sunny blue skies.

Monday, July 2			Tuesday, July 3		Wednesday, July 4	
	Session 1	Session 2	Session 1	Session 2	Session 1	Session 2
9:00-10:40	Convening Session <b>Phylogeny-Wojciechowski</b> <b>Biogeog – Crisp and Luckow</b> (MDC, JM)	none	Mimosoid Systematics (exclud Acacia) <b>Grimes &amp; Luckow</b> (JG)	Symbiosis, Physiology& Rehabilitation <b>Sprent &amp; Burdon</b> (MDC)	Papilionoid Systematics <b>Lavin, Klitgaard, Pennington, Weston</b> (MDC)	Biodiversity Information Resources <b>Bisby and Croft</b> (MDC)
Tea	Tea	Tea	Tea	Tea	Tea	Tea
11:10-12:50	Caesalps Systematics <b>Bruneau, Lewis &amp; Herendeen</b> (MDC)	Phytochemistry Meurer-Grimes & van Wyk (JG)	Mimosoid Systematics (exclud Acacia)	Symbiosis, Physiology& Rehabilitation	Papilionoid Systematics	Electronic identification tools <b>De Kok &amp; Ridder</b> (MDC)
Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
2:00-3:40	Caesalps Systematics	Phytochemistry	Acacia Systematics <b>Maslin &amp; Miller</b> (JG)	Symbiosis, Physiology& Rehabilitation	Internet Café for keys and databases  Free Time	
Tea	Tea	Tea	Tea	Tea		
4:00-5:20	Caesalps Systematics	Phytochemistry	Acacia Systematics	Symbiosis, Physiology& Rehabilitation		
Evening	5:30-6:30 Poster session		Public speaker: Prof Adrienne Clark, “Risks and benefits from GM crops”		Banquet	
Thursday, July 5			Friday, July 6			
	Session 1	Session 2	Session 1	Session 2		
9:00-10:40	Papilionoid Systematics (cont.)	Utilisation & Intraspecific Genetics <b>Williams, Doyle &amp; Hughes</b> (JG)	Developmental and Structural Morphology <b>Singer &amp; Tucker</b> (JG)	Legume/Animal Interactions <b>Stone and Koptur</b> (JG)		
Tea	Tea	Tea	Tea	Tea		
11:10-12:50	Papilionoid Systematics	Utilisation & Intraspecific Genetics	Developmental and Structural Morphology	Legume/Animal Interactions		
Lunch	Lunch	Lunch	Lunch	Lunch		
2:00-3:40	Papilionoid Systematics	Utilisation & Intraspecific Genetics	Developmental and Structural Morphology	Legume/Animal Interactions		
Tea	Tea	Tea	Tea	Tea		
4:00-5:40	Papilionoid Systematics	Utilisation & Intraspecific Genetics	Developmental and Structural Morphology	Legume/Animal Interactions		
Evening						

**For further information:** visit the regularly updated conference web site at <http://www.science.uts.edu.au/sasb/legumes.html>

**To register your interest in the conference,** and to add your name to the address list for the registration brochure (to be mailed in February), contact:

Legumes Down Under 2001  
Australian Convention & Travel Services (ACTS)  
GPO Box 2200  
Canberra ACT 2601  
Australia

Telephone: (02) 6257 3299 (Int. +61 2)  
Facsimile: (02) 6257 3256 (Int. +61 2)  
Web site: [www.ausconvservices.com.au](http://www.ausconvservices.com.au)  
E-mail: [legumes@ausconvservices.com.au](mailto:legumes@ausconvservices.com.au)

#### **Organising committee**

Mike Crisp  
Jim Grimes  
Joe Miller  
David Morrison

### **The Rupert Barneby Award**

James L. Luteyn

The New York Botanical Garden is pleased to announce that Gerry Allen currently a post-doctorate fellow at the Laboratory of Molecular Systematics, National Museum of Natural History, Smithsonian Institution is the recipient of the Rupert Barneby Award for the year 2000. Dr. Allen will be studying the Phylogenetic Systematics of *Lotus* (Papilionoideae) and other genera of the Loteae.

The New York Botanical Garden now invites applications for the Rupert Barneby Award for 2001. The award of US\$ 1,000 is to assist researchers to visit The New York Botanical Garden to study the rich collection of *Leguminosae*. Anyone interested in applying for the award should submit their curriculum vitae, a detailed letter describing the project for which the award is sought and the names of 2-3 referees. Travel to NYBG should be planned for sometime in 2001. The letter should be addressed to Dr. James L. Luteyn, Institute of Systematic Botany, The New York Botanical Garden, Bronx, NY 10458-5126 USA, and received no later than December 1, 2000. Announcement of the recipient will be made by December 15th.

Anyone interested in making a contribution to THE RUPERT BARNEBY FUND IN LEGUME SYSTEMATICS, which supports this award, may send his or her cheque, payable to The New York Botanical Garden, to Dr. Luteyn.

### **Legume (Fabaceae) Fruits and Seeds: A new CD-ROM Publication**

Joseph H. Kirkbride, Jr., Charles R. (Bob) Gunn, Anna L. Weitzman, and Michael J. Dallwitz

This CD-ROM, containing a worldwide database of legume genera, was published in March of 2000. Fruit and seed morphology and distributions are recorded for each legume genus, and images are attached. The interactive software system INTKEY, developed at CSIRO, is used for accessing the data and images. This package can be used for identifying the genus of unknown fruit or seed samples or for querying the fruit and seed data and images for legume genera.

Six hundred and eighty six legume genera are accepted. For each genus, 157 fruit characters, 127 seed characters, seven distribution characters, 11 metadata characters, and notes are recorded. Images are attached to 204 characters to aid in the interpretation and selection of character states, and 1,377 images are attached to the genera to help in their identification and the verification of identifications.

At the time of publication, the latest version of the Intkey software, under license from CSIRO, was placed on the CD-ROM for use with the data and images on the CD-ROM. The license also entitles the owner of the CD-ROM to upgrade the Intkey software for use with the CD-ROM. Since then, there have been significant improvements in Intkey. The latest version of Intkey can be downloaded from the following Internet address: <http://www.biodiversity.uno.edu/delta/win32/intk32.exe>. Owners of the CD-ROM should download this software, and install it on their PC.

To access the CD-ROM, start the Intkey program on the PC. The 'Select data set' window will appear. Click on the

'Browse...' button at the bottom of the window. Locate the CD-ROM on the PC, and view the contents of the folder (directory) 'data' on the CD-ROM. Open the file 'intkey.ini' which will start the reading of the legume fruit and seed data and display the title image. Click on 'OK' to close the title image, and Intkey with title and author windows will appear. Unfortunately the title and author windows will display incorrectly. Click on the drop-down menu 'Window', and then 'Close All' which will shut the title and author windows. This is the only known incompatibility between the CD-ROM and the latest version of Intkey. The new Intkey interface is much more user friendly. Four panes are displayed: the upper-left pane shows the available characters in best order for separating the remaining genera; the lower-left pane shows the characters and their states already used; the upper-right pane shows the genera remaining; and, the lower-right pane shows the genera eliminated. The increased ease of use far out weighs the incorrect display of the title and author windows.

Always begin each identification by clicking on either the 'Identify fruits (including seeds)' or the 'Identify seeds' button for identifying either fruits or seeds, respectively. This step is essential because all legume genera are represented in the database, so a few genera have no fruit or seed data.

The CD-ROM, ISBN: I-887905-25-1, is available from the publisher: Parkway Publishers, Inc., P.O. Box 3678, Boone, NC 28607, USA, Phone and FAX: 828-265-3993, Toll Free in USA: 800-821-9155, and E-mail: [sales@parkwaypublishers.com](mailto:sales@parkwaypublishers.com). Each copy is US\$75.00 plus US\$5.00 handling and shipping within the USA or US\$10.00 outside of the USA.

## KRweb - Kew Record on the Internet

The Royal Botanic Gardens, Kew, has launched a web-based version of the Kew Record of Taxonomic Literature. This valuable resource, which is also available as a printed quarterly publication from the Stationery Office, lists references to all publications relating to the taxonomy of flowering plants, gymnosperms and ferns along with references to phytogeography, nomenclature, chemotaxonomy, molecular taxonomy chromosome surveys, floras and botanical institutions; papers of taxonomic interest in the fields of anatomy and morphology, palynology, embryology and reproductive biology are also included along with relevant bibliographies and biographies. The database currently contains some 175 thousand references published from 1971 to 2000 with new references being added once a week. The Kew Record can be accessed at:

<http://www.rbgekew.org.uk/kr/KRHomeExt.html>

The printed quarterly publication, ISSN 0307-2835, is available from The Stationery Office

<http://www.thestationeryoffice.com>

## The International Plant Names Index (IPNI)

The International Plant Names Index (IPNI) is a database of the names and associated basic bibliographical details of all seed plants. Its goal is to eliminate the need for repeated reference to primary sources for basic bibliographic information about plant names. The data are freely available and are gradually being standardized and checked. IPNI will be a dynamic resource, depending on direct contributions by all members of the botanical community.

IPNI is the product of a collaboration between The Royal Botanic Gardens, Kew, The Harvard University Herbaria, and the Australian National Herbarium. It can be found at <http://www.ipni.org>

## Nodulation and Nitrogen Fixation

(Legume Nodulation reports not in Allen and Allen (1981))

Joseph H. Kirkbride, Jr.

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Abarema filamentosa</i> (Benth.) Pittier	+	8
<i>Abarema jupunba</i> (Willd.) Britton & Killip	+	8
<i>Abarema mataybifolia</i> (Sandw.) Barneby & Grimes	+	16
<i>Acacia alpina</i> F. Muell.	+	4
<i>Acacia aulacocarpa</i> A. Cunn. ex Benth.	+	1
<i>Acacia bahiensis</i> Benth.	+	8
<i>Acacia brevispica</i> Harms	-	15
<i>Acacia crasscarpa</i> A. Cunn. ex Benth.	+	1

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Acacia leptocarpa</i> A. Cunn. ex Benth.	+	1
<i>Acacia martii</i> Benth.	+	8
<i>Acacia nilotica</i> (L.) Willd. ex Delile ssp. <i>cupressiformis</i> (J.L. Stewart) Ali & Faruqi	+	3
<i>Acacia nilotica</i> (L.) Willd. ex Delile ssp. <i>hemispherica</i> Ali & Faruqi	+	3
<i>Acacia obliquinervia</i> Tind.	+	4
<i>Acacia pendula</i> A. Cunn. ex G. Don	+	14
<i>Acacia retinodes</i> Schltdl.	+	14
<i>Acacia riparia</i> Kunth	-	8
<i>Acacia terminalis</i> (Salisb.) J.F. Macbr.	+	4
<i>Acosmium bijugum</i> (Vog.) Yakovl.	+	8
<i>Acosmium dasycarpum</i> (Vog.) Yakovl.	-	8
<i>Acosmium lentiscifolium</i> Schott	-	7
<i>Aeschynomene afraspera</i> J. Léonard	+	5
<i>Afzelia rhomboidea</i> (Blanco) S. Vidal	-	1
<i>Albizia multiflora</i> (Kunth) Barneby & Grimes	+	17
<i>Alexa wachenheimii</i> Benoist	+	16
<i>Alysicarpus heterophyllus</i> (Baker) Jafri & Ali	+	3
<i>Ammopiptanthus mongolicus</i> (Maxim. ex Kom.) S.H. Chang	+	12
<i>Anadenanthera colubrina</i> (Vell.) Brenan	+	19
<i>Anadenanthera macrocarpa</i> (Benth.) Brenan = <i>A. Anadenanthera colubrina</i> (Vell.) Brenan var. <i>cebil</i> (Griseb.) Altschul (ed. note)	+	11
<i>Andira fraxinifolia</i> Benth.	+	7
<i>Andira frondosa</i> Benth.	+	7
<i>Andira legalis</i> (Vell.) Toledo	+	7
<i>Andira pisonis</i> Mart.	+	8
<i>Andira coriacea</i> Pulle	+	16
<i>Arapatiella psilophylla</i> (Harms) Cowan	-	8
<i>Archidendron clypearia</i> (Jack) I.C. Nielsen	+	1
<i>Archidendron ellipticum</i> (Blume) I.C. Nielsen	+	1
<i>Archidendron scutiferum</i> (Blanco) I.C. Nielsen	+	1
<i>Argyrobium roseum</i> (Cambess.) Jaub. & Spach	+	2
<i>Astragalus ammodytes</i> Pall.	+	12
<i>Astragalus bolanderi</i> A. Gray	+	22
<i>Astragalus dschimensis</i> Gontsch.	+	12
<i>Astragalus hypogaeus</i> Ledeb.	+	12
<i>Astragalus karkarensis</i> Popov.	+	12
<i>Astragalus lasiophyllus</i> Ledeb.	+	12
<i>Astragalus lehmannianus</i> Bunge	+	12
<i>Astragalus oxyglottis</i> Steven ex M. Bieb.	+	12
<i>Astragalus saccocalyx</i> Shrenk ex Fisch.	+	12
<i>Astragalus steinbergianus</i> Sumnev.	+	12
<i>Astragalus stenocerus</i> C.A. Mey.	+	12
<i>Astragalus hosackioides</i> Benth. ex Baker	+	13
<i>Astragalus psilocentros</i> Fisch.	+	13
<i>Astragalus trichocarpus</i> Grah.	+	13
<i>Astragalus whitneyi</i> A. Gray	+	22
<i>Ateleia herbert-smithii</i> Pittier	+	20
<i>Ateleia ovata</i> Mohlenbr.	+	14
<i>Baphia massaiensis</i> Taub.	+	20
<i>Barnebydendron riedellii</i> (Tul.) J.H. Kirkbr.	-	7
<i>Bauhinia acuruana</i> Moric.	-	8
<i>Bauhinia angulosa</i> Vog. var. <i>densiflora</i> Benth.	-	8
<i>Bauhinia conwayi</i> Rusby	-	8
<i>Bauhinia longifolia</i> (Bong.) Steud.	-	8
<i>Bocoa mollis</i> (Benth.) Cowan	-	8
<i>Bocoa prouacensis</i> Aubl.	-	16
<i>Bowdichia virgilioides</i> Kunth	+	11
<i>Brodriguesia santosii</i> Cowan	-	8
<i>Cadia ellisiana</i> Baker	+	20

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Cadia purpurea</i> (G. Piccioli) Aiton	+	20
<i>Caesalpinia echinata</i> Lam.	-	7
<i>Caesalpinia ferrea</i> Mart. var. <i>leiostachya</i> Benth.	-	7
<i>Caesalpinia ferrea</i> Mart. var. <i>parvifolia</i> Benth.	-	7
<i>Caesalpinia latisiliqua</i> (Cav.) Hattink	-	1
<i>Caesalpinia peltophoroides</i> Benth. = <i>C. pluriosa</i> DC. var. <i>peltophoroides</i> (Benth.) G.P. Lewis (ed. note)	-	7
<i>Caesalpinia pulcherrima</i> (L.) Sw.	+	3
<i>Cajanus mollis</i> (Benth.) van der Maesen	+	13
<i>Callerya megasperma</i> (F. Muell.) Schott	+	14
<i>Calliandra bella</i> Benth.	-	8
<i>Calliandra erubescens</i> Renv.	+	8
<i>Camptosema coriaceum</i> (Nees & Mart.) Benth.	+	8
<i>Camptosema pedicellatum</i> Benth.	+	8
<i>Caragana korshinskii</i> Kom.	+	12
<i>Cassia ferruginea</i> (Schrad.) Schrad. ex DC.	-	7
<i>Cassia leptophylla</i> Vog.	-	7
<i>Cassia roxburghii</i> DC.	+	3
<i>Cassia spruceana</i> Benth.	-	16
<i>Cedrelinga cateniformis</i> (Ducke) Ducke	+	6
<i>Cenostigma gardnerianum</i> Tul.	-	8
<i>Centrolobium robustum</i> (Vell.) Benth.	+	11
<i>Centrolobium tomentosum</i> Benth.	+	7
<i>Centrosema arenarium</i> Benth.	+	8
<i>Chaetocalyx scandens</i> (L.) Urb.	-	8
<i>Chamaecrista aspleniifolia</i> (H.S. Irwin & Barneby) H.S. Irwin & Barneby	-	7
<i>Chamaecrista ciliolata</i> (Benth.) H.S. Irwin & Barneby	+	8
<i>Chamaecrista cytisoides</i> (Collad.) H.S. Irwin & Barneby var. <i>blanchetii</i> (Benth.) H.S. Irwin & Barneby	+	8
<i>Chamaecrista dentata</i> (Vog.) H.S. Irwin & Barneby	+	8
<i>Chamaecrista duartei</i> (H.S. Irwin) H.S. Irwin & Barneby	+	8
<i>Chamaecrista nictitans</i> (L.) Moench var. <i>pilosa</i> (Benth.) H.S. Irwin & Barneby	+	8
<i>Chamaecrista ramosa</i> (Vog.) H.S. Irwin & Barneby	+	8
<i>Chamaecrista repens</i> (Vog.) H.S. Irwin & Barneby	+	8
<i>Chloroleucon dumosum</i> (Benth.) G.P. Lewis	+	8
<i>Chorizema diversifolium</i> A.DC.	+	14
<i>Christa obcordata</i> (Poir.) Bakh.f.	+	1
<i>Cleobulia multiflora</i> Mart. ex Benth.	+	8
<i>Clitoria fairchildiana</i> R. Howard	+	17
<i>Copaifera langsdorffii</i> Desf.	-	7
<i>Copaifera lucens</i> Dwyer	-	8
<i>Copaifera trapezifolia</i> Hayne	-	7
<i>Cranocarpus martii</i> Benth.	+	8
<i>Crotalaria holosericea</i> Nees & Mart.	+	8
<i>Crotalaria medicaginea</i> Lam. var. <i>neglecta</i> (Wright & Arn.) Bak.	+	3
<i>Crotalaria medicaginea</i> Lam. var. <i>medicaginea</i>	+	3
<i>Crotalaria triquetra</i> Dalz.	+	1
<i>Crudia aromatica</i> Aubl.	-	16
<i>Crudia bracteata</i> Benth.	+	16
<i>Cytisus villosus</i> Pourr.	+	14
<i>Dalbergia ecastaphyllum</i> (L.) Taub.	+	8
<i>Dalbergia glaucescens</i> (Benth.) Benth.	+	7
<i>Dalbergia nigra</i> (Vell.) Allemão ex Benth.	+	11
<i>Dalbergia retusa</i> Hemsl.	+	14
<i>Dalea cliffortiana</i> Willd.	+	1
<i>Dendrolobium triangulare</i> (Retz.) Schindl.	+	14
<i>Derris robusta</i> (DC.) Benth.	+	14
<i>Desmodium dichotomum</i> (Willd.) DC.	+	14
<i>Desmodium sequax</i> Wall.	+	1

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Desmodium styracifolium</i> (Osbeck) Merr.	+	1
<i>Desmodium zonatum</i> Miq.	+	1
<i>Dialium guianense</i> (Aubl.) Sandwith	-	7
<i>Dicorynia guianensis</i> Amsh.	-	16
<i>Dillwynia glaberrima</i> Smith	+	14
<i>Dimorphandra exaltata</i> Schott	+	11
<i>Dioclea sericea</i> Kunth	+	14
<i>Diphysa robinoides</i> Benth.	+	8
<i>Diploctropis incexis</i> Rizz.	+	7
<i>Diptychandra aurantiaca</i> Tul. ssp. <i>epunctata</i> (Tul.) H.C. de Lima, Carvalho & Costa	-	8
<i>Dolichos junghuhnianus</i> Benth.	+	14
<i>Dunbaria circinalis</i> (Benth.) Baker	+	14
<i>Dunbaria nivea</i> Miq.	+	14
<i>Dysolobium apioides</i> (Gapnepain) Maréchal	+	14
<i>Entada polyphylla</i> Benth.	+	17
<i>Enterolobium monjollo</i> Benth.	-	7
<i>Enterolobium schomburgkii</i> (Benth.) Benth.	+	7
<i>Enterolobium timbouva</i> Mart.	+	17
<i>Eremosparton songorium</i> (Litv.) Vassilcz.	+	12
<i>Eriosema heterophyllum</i> Benth.	+	8
<i>Eriosema violaceum</i> (Aubl.) G. Don	+	14
<i>Erythrina costaricensis</i> M. Micheli	+	14
<i>Erythrina falcata</i> Benth.	+	9
<i>Erythrina vespertilio</i> Benth.	+	14
<i>Falcataria moluccana</i> (Miq.) Barneby & Grimes	+	7
<i>Flemingia congesta</i> Roxb. ex W.T. Aiton	+	14
<i>Flemingia fruticulosa</i> Wall. ex Benth.	+	13
<i>Galactia latisilqua</i> Desv.	+	14
<i>Glycyrrhiza inflata</i> Batalin	+	12
<i>Glycyrrhiza korshinskyi</i> Grigor.	+	12
<i>Goniorrhachis marginata</i> Taub.	-	7
<i>Goodia lotifolia</i> Salisb.	+	14
<i>Grazielodendron rio-docensis</i> H.C. de Lima	-	7
<i>Gueldenstaedtia stenophylla</i> Bunge	+	14
<i>Gueldenstaedtia verna</i> Georgi	+	13
<i>Harleyodendron unifoliolatum</i> Cowan	-	8
<i>Hedysarum scoparium</i> Fisch. & C.A. Mey.	+	12
<i>Hesperolaburnum platycarpum</i> (Maire) Maire	+	14
<i>Hovea linearis</i> (Sm.) R.Br.	+	14
<i>Hymenaea aurea</i> Y.T. Lee & Langenh.	-	7
<i>Hymenaea courbaril</i> L. var. <i>stilbocarpa</i> (Hayne) Y.T. Lee & Langenh.	-	7
<i>Hymenaea eriogyne</i> Benth.	-	8
<i>Hymenaea martiana</i> Hayne	-	8
<i>Hymenaea rubriflora</i> Ducke var. <i>rubriflora</i>	-	7
<i>Hymenaea stigonocarpa</i> Hayne	-	8
<i>Hymenolobium alagoanum</i> Ducke var. <i>alagoanum</i>	+	8
<i>Hymenolobium alagoanum</i> Ducke var. <i>parvifolium</i> H.C. de Lima	+	7
<i>Hymenolobium janeirense</i> Kuhlman.	+	8
<i>Hymenolobium flavum</i> Kleinh.	+	16
<i>Inga acrocephala</i> Steud.	+	16
<i>Inga alba</i> (Swartz) Willd.	+	16
<i>Inga aptera</i> (Vinha) T.D. Penn.	+	8
<i>Inga blanchetiana</i> Benth.	+	8
<i>Inga capitata</i> Desv.	+	7
<i>Inga cayennensis</i> Sagot ex Benth.	+	16
<i>Inga fanchoniana</i> O. Poncy	+	16
<i>Inga graciliflora</i> Benth.	+	16
<i>Inga gracilifolia</i> Ducke	+	16
<i>Inga huberi</i> Ducke	+	16



Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Inga jenmanii</i> Sandw.	-	16
<i>Inga leiocalycina</i> Benth.	+	16
<i>Inga lomatophylla</i> Benth.	-	16
<i>Inga marginata</i> Willd.	+	8
<i>Inga mertoniana</i> J. León	+	14
<i>Inga nourgensis</i> O. Poncy	-	16
<i>Inga paraensis</i> Ducke	+	16
<i>Inga sessilis</i> (Vell.) Mart.	+	11
<i>Inga splendens</i> Willd.	+	16
<i>Inga stipularis</i> DC.	+	16
<i>Inga striata</i> Benth.	+	7
<i>Inga subnuda</i> Salzm. ex Benth.	+	8
<i>Inga subnuda</i> Salzm. ex Benth. ssp. <i>luschnathiana</i> (Benth.) T.D. Penn.	+	7
<i>Inga tubaeformis</i> Benoist	+	16
<i>Inga vera</i> Willd. ssp. <i>affinis</i> (DC.) T.D. Penn.	+	8
<i>Lathyrus emodii</i> (Wall. ex Fritsch) Ali	+	2
<i>Lathyrus nevadensis</i> S. Watson	+	22
<i>Leucaena trichodes</i> (Jacq.) Benth.	+	14
<i>Lonchocarpus costatus</i> Benth.	+	7
<i>Lonchocarpus guilleminianus</i> (Tul.) Malme	+	7
<i>Luetzelburgia bahiensis</i> Yakovl.	-	8
<i>Lupinus angustiflorus</i> Eastw.	+	22
<i>Lupinus arbustus</i> Douglas ex Lindl.	+	22
<i>Lupinus breweri</i> A. Gray	+	22
<i>Lupinus fulcratus</i> Greene	+	22
<i>Lupinus hirsutissimus</i> Benth.	+	20
<i>Maackia amurensis</i> Rupr. & Maxim.	+	20
<i>Machaerium fulvovenosum</i> H.C. de Lima	-	7
<i>Machaerium incorruptibile</i> (Vell.) Benth.	+	11
<i>Machaerium nictitans</i> (Vell.) Benth.	+	11
<i>Machaerium pedicellatum</i> Vog.	+	8
<i>Machaerium salzmännii</i> Benth.	-	8
<i>Machaerium villosum</i> Vog.	+	11
<i>Macrolobium latifolium</i> Vog.	-	7
<i>Macroptilium martii</i> (Benth.) Maréchal & Baudet	+	8
<i>Medicago cancellata</i> M. Bieb.	+	14
<i>Medicago medicaginoides</i> (Retz.) E. Small	+	12
<i>Medicago monantha</i> (C.A. Mey) Trautv.	+	3
<i>Medicago orthoceras</i> (Kar. & Kir.) Trautv.	+	12
<i>Medicago papillosa</i> Boiss.	+	14
<i>Melanoxylon brauna</i> Schott	+	7
<i>Mimosa acutistipula</i> Benth.	+	17
<i>Mimosa arenosa</i> (Willd.) Poiret	+	17
<i>Mimosa blanchetii</i> Benth.	+	8
<i>Mimosa brachycarpa</i> Benth.	+	8
<i>Mimosa calodendron</i> Mart. ex Benth.	+	8
<i>Mimosa diplotricha</i> C. Wright ex Sauvalle var. <i>diplotricha</i>	+	1
<i>Mimosa filipes</i> Mart.	+	8
<i>Mimosa mensicola</i> Barneby	+	8
<i>Mimosa pellita</i> Willd.	+	8
<i>Mimosa velloziana</i> Mart.	+	8
<i>Mimosa verrucosa</i> Benth.	+	8
<i>Mirbelia pungens</i> G. Don	+	14
<i>Moldenhawera floribunda</i> Schrad.	+	7
<i>Myrocarpus fastigiatus</i> Allemão	-	7
<i>Ormosia arborea</i> Harms	+	7
<i>Ormosia fastigiata</i> Tul.	+	8
<i>Ormosia nitida</i> Vog.	+	7
<i>Ormosia melanocarpa</i> Kleinh.	+	16

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Ormosia nobilis</i> Tul. var. <i>bolivarensis</i> Rudd	+	16
<i>Oxylobium ellipticum</i> (Vent.) R.Br.	+	14
<i>Oxytropis halleri</i> Bunge ex W.D.J. Koch	+	14
<i>Oxytropis mollis</i> Royle	+	13
<i>Pachyrhizus tuberosus</i> (Lam.) Spreng.	+	14
<i>Paramachaerium ormosioides</i> (Ducke) Ducke	+	16
<i>Parapiptadenia pterosperma</i> (Benth.) Brenan	+	7
<i>Paraserianthes falcataria</i> (L.) I.C. Nielsen = <i>Falcataria moluccana</i> (Miq.) Barneby and Grimes (ed. note)	+	1
<i>Parkia multijuga</i> Benth.	+	18
<i>Peltogyne angustiflora</i> Ducke	-	7
<i>Peltophorum dubium</i> (Spreng.) Taub.	-	8
<i>Periandra coccinea</i> (Schrader.) Benth.	+	8
<i>Periandra mediterranea</i> (Vell.) Taub.	+	8
<i>Pericopsis mooniana</i> (Thwaites) Thwaites	+	20
<i>Phaseolus leptostachyus</i> Benth.	+	14
<i>Phyllodium elegans</i> (Lour.) Desv.	+	14
<i>Piptadenia cobi</i> Rizz. & A. Matt. = <i>Stryphnodendron pulcherrimum</i> (Willd.) Hochr. (ed. note)	-	7
<i>Piptadenia gonoacantha</i> (Mart.) J.F. Macbr.	+	11
<i>Piptadenia stipulacea</i> (Benth.) Ducke	+	21
<i>Piptadenia viridiflora</i> (Kunth) Benth.	+	8
<i>Pithecellobium pedicellare</i> (DC.) Benth. = <i>Albizia pedicellaris</i> (DC.) L. Rico (syn., <i>Balizia pedicellaris</i> (DC.) Barneby and Grimes) (ed. note)	+	7
<i>Pithecellobium racemosum</i> Ducke	+	18
<i>Platymenia reticulata</i> Benth.	+	7
<i>Platymiscium floribundum</i> Vog.	+	7
<i>Platymiscium speciosum</i> Vog.	+	8
<i>Platypodium elegans</i> Vog.	+	11
<i>Poecilanthe falcata</i> (Vell.) Heringer	+	7
<i>Poecilanthe hostmanii</i> (Benth.) Amsh.	+	16
<i>Poecilanthe ulei</i> (Harms) Arroyo & Rudd	+/-	8
<i>Poeppigia procera</i> C. Presl	-	7
<i>Poiretia punctata</i> (Willd.) Desv.	+	8
<i>Pseudopiptadenia contorta</i> (DC.) G.P. Lewis & M.P. Lima	+	7
<i>Pseudopiptadenia suaveolens</i> (Miq.) Grimes	-	16
<i>Pseudosamanea guachepele</i> (Kunth) Harms	+	11
<i>Psoralea plumosa</i> F. Muell.	+	14
<i>Psoralea pustulata</i> F. Muell.	+	14
<i>Pterocarpus rohrii</i> Vahl	-	8
<i>Pterocarpus violaceus</i> Vog.	-	7
<i>Pterodon abruptus</i> (Moric.) Benth.	-	8
<i>Pueraria phaseoloides</i> (Roxb.) Benth. var. <i>javanica</i> (Benth.) Baker	+	1
<i>Pultenaea blakelyi</i> J. Thompson	+	14
<i>Pycnospora lutescens</i> (Poir.) Schindl.	+	14
<i>Retama raetam</i> (Forssk.) Webb	+	20
<i>Rhynchosia pseudocajan</i> Cambess.	+	13
<i>Samanea inopinata</i> (Harms) Barneby & Grimes	+	8
<i>Sclerolobium albiflorum</i> Benoist	+	16
<i>Sclerolobium densiflorum</i> Benth.	+	8
<i>Sclerolobium melinonii</i> Harms	+	16
<i>Senna appendiculata</i> (Vog.) Wiersema	-	8
<i>Senna cana</i> (Nees & Mart.) H.S. Irwin & Barneby	-	8
<i>Senna gardneri</i> (Benth.) H.S. Irwin & Barneby	-	8
<i>Senna macrantha</i> (Collad.) H.S. Irwin & Barneby	-	8
<i>Senna macrantha</i> (Colladon) H.S. Irwin & Barneby var. <i>micans</i> (Nees) H.S. Irwin & Barneby	-	7
<i>Senna multijuga</i> (L. Rich.) H.S. Irwin & Barneby var. <i>verrucosa</i> (Vog.) H.S. Irwin & Barneby	+	7

Taxon	Status <sup>1</sup>	Source <sup>2</sup>
<i>Senna pinheiroi</i> H.S. Irwin & Barneby	-	8
<i>Senna purpurea</i> (Roxb. ex Lindl.) Roxb.	+	3
<i>Senna reniformis</i> (G. Don) H.S. Irwin & Barneby	-	8
<i>Senna spectabilis</i> (DC.) H.S. Irwin & Barneby	-	8
<i>Senna quinquangulata</i> (L.C. Rich.) H.S. Irwin & Barneby	+	16
<i>Sesbania concolor</i> Gillett	+	3
<i>Sesbania sesban</i> (L.) Merr. var. <i>sesban</i>	+	10
<i>Sesbania virgata</i> (Cav.) Pers.	+	17
<i>Sophora alopecuroides</i> L.	+	12
<i>Sophora tetraptera</i> J.F. Mill.	+	20
<i>Sophora tomentosa</i> L. ssp. <i>occidentalis</i> (L.) Brummitt	+	20
<i>Sophora velutina</i> Lindl.	+	20
<i>Sphaerophysa salsula</i> (Pall.) DC.	+	12
<i>Stryphnodendron polystachyum</i> (Miq.) Kleinh.	+	16
<i>Stryphnodendron pulcherrimum</i> (Willd.) Hochr.	-	8
<i>Stylosanthes guianensis</i> (Aubl.) Sw. var. <i>gracilis</i> (Kunth) Vog.	+	1
<i>Stylosanthes scabra</i> Vog.	+	8
<i>Swainsona forrestii</i> F. Muell. ex A.T. Lee	+	14
<i>Swartzia acutifolia</i> Vog.	+	7
<i>Swartzia arborescens</i> (Aubl.) Pittier	+	16
<i>Swartzia bahiensis</i> Cowan	+	8
<i>Swartzia flaemingii</i> Raddi	+	7
<i>Swartzia guianensis</i> Aubl.	+	16
<i>Swartzia langsdoeffii</i> Raddi	+	11
<i>Swartzia macrostachya</i> Benth.	+/-	8
<i>Swartzia myrtifolia</i> J.E. Smith var. <i>elegans</i> (Schott) Cowan	-	7
<i>Swartzia panacoco</i> (Aubl.) Cowan	+	16
<i>Sweetia fruticosa</i> Spreng.	-	7
<i>Tachigali multijuga</i> Benth.	+	11
<i>Tamarindus indica</i> L.	+	3
<i>Tephrosia obovata</i> Merr.	+	1
<i>Tephrosia rosea</i> F. Muell. ex Benth.	+	14
<i>Tephrosia uniflora</i> Pers. ssp. <i>petrosa</i> (Blatter & Hallberg) Gillett & Ali	+	3
<i>Teyleria koordersii</i> (Backer) Backer	+	14
<i>Vatairea erythrocarpa</i> (Ducke) Ducke	-	16
<i>Vataireopsis araroba</i> (Aguilar) Ducke	-	7
<i>Vigna caracalla</i> (L.) Verdc.	+	14
<i>Vigna cylindrica</i> (L.) Skeels	+	14
<i>Vigna glabrescens</i> Maréchal, Mascarpa and Stainier	+	14
<i>Vigna minima</i> (Roxb.) Ohwi & H. Ohashi	+	14
<i>Vigna parkeri</i> Baker	+	14
<i>Virgilia divaricata</i> Adamson	+	14
<i>Vouacapoua americana</i> Aubl.	-	16
<i>Vouacapoua pallidior</i> Ducke	+	6
<i>Xanthocercis madagascariensis</i> Baill.	+	19
<i>Zollernia glabra</i> (Spreng.) Yakovl.	-	7
<i>Zollernia ilicifolia</i> (Brongn.) Vog.	-	7
<i>Zornia diphylla</i> (L.) Pers.	+	1
<i>Zygia racemosa</i> (Ducke) Barneby & Grimes	-	16

<sup>1</sup> Status: +, root nodules reported as present; -, root nodules reported as absent.

<sup>2</sup> Source:

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## GLEANINGS

Ed. Note: Names in all capital letters are Bean Bag Readers. Their full names and addresses are listed in the November 1999 Bean Bag Directory available on the www server of the Royal Botanic Gardens, Kew, United Kingdom. See "From the Editor" for the URL.

AGUILAR is undertaking morphological studies of legume seeds in the Philippines and needs tropical legume seeds. She offers herbarium specimens of Phillipine legumes in exchange.

ALBUQUERQUE continues to work on medicinal legumes on which subject she would like to receive information and offers information about Amazonian legumes in exchange.

ANULOV is working on the chemotaxonomy of Leguminosae and needs legume seeds to continue this work. Reprints and seeds of temperate legumes are offered in exchange.

BRETELER is working on the taxonomy of *Cynometra* and related genera (Caesalpinioideae - Detarieae).

BROCKWELL is reviewing the symbiosis between *Acacia* and *Rhizobia* and needs seeds of *Medicago lacinata* from any country other than Australia. He offers seeds of Australian *Acacia* species in exchange.

CORBY is studying the germination of Leguminous seeds and with D.L. Smith is studying the endosperm of Leguminous seeds.

ESPINOSA is studying the effects of interplanting *Lupinus mutabilis*, *Lupinus silvestris* and *Zea mays* on their growth and acquisition of phosphorous and the effects of interplanting *Lupinus mutabilis* with *Sorghum* on their growth and acquisition of iron.

FORTUNE-HOPKINS is undertaking a molecular systematic study of *Parkia* using ITS and *trnL* and would like to receive silica-dried material of any *Parkia* species with a herbarium voucher.

KIRKBRIDE is preparing a publication of legume nodulation reports, and has reports for approximately 4,200 legume taxa. His work is based on the monumental publication by Allen and Allen in 1981, *The Leguminosae: A source book of characteristics, uses, and nodulation*. His publication will only include the nodulation reports and their references. This work is part of ILDIS and will also be available from the ILDIS database. Using the USDA National Agricultural Library resources, he has attempted to locate all new legume nodulation reports since 1979. His discoveries have been published in *The Bean Bag*. Please send new legume nodulation reports not included in Allen and Allen or KIRKBRIDE's *Bean Bag* articles to KIRKBRIDE as soon as possible.

KIRKBRIDE will resume his much delayed monograph of *Lotus* subgen. *Pedrosia* following completion of his legume nodulation publication.

KIRKBRIDE, GUNN, Anna L. Weitzman, and Michael J. Dallwitz are continuing the publication process for their study of the fruits and seeds of all Faboideae genera. The USDA, ARS Information Staff is handling the publication. The manuscript has been reviewed and changed, and is ready for printing. The illustrative materials are now being worked on. It will probably be published in late 2001, and every *Bean Bag* Reader will receive a free copy.

KIRKBRIDE, GUNN, Anna L. Weitzman, Michael J. Dallwitz, and Leslie A. Gilbert completed and published their DELTA database describing the fruits and seeds of all legume genera. See the preceding article, "Legume (Fabaceae) Fruits and Seeds".

KRAMINA is working on the taxonomy of the genus *Lotus* L.

LOBANOVA is studying the biochemistry, physiology, ecology and evolution of galactomannans in Siberian legumes. She needs seeds from different habitats and offers seeds of Siberian legumes in exchange.

LOZANO needs collections of *Macherium* from the neotropics and offers seeds of *Machaerium* in exchange.

MAXWELL is working again in Diolceinae. He has finished his genera in the Flora of Venezuelan Guayana, Vol.5 and the Flora de Nicaragua, working on other past commitments, especially new species and notes in the genus *Dioclea*.

MENDONÇA FILHO is still in need of fruits of any species of *Machaerium* (Leg. Pap): live (for germination) and/or dry. He offers in exchange identifications of *Machaerium* or possibly herbarium specimens from Minas Gerais-Brasil.

MENKE is preparing an account of the Leguminosae for the (revised) Flora of San Francisco County, California.

Phan Kê Lôc and VIDAL have completed a revision of the Millettieae for the Flore du Cambodge, du Laos et du Vietnam (Vol 30), which is undergoing final editorial work and will be sent for printing at the end of November 2000.

PIERGIOVANNI with Nenno Are maintaining a germplasm database on Italian landraces of *Phaseolus vulgaris* L. It is available on the World Wide Web at: <http://www.ba.cnr.it/~germap14/ilb/>. They offer and need seed material of the same.

ROSCOV is developing a virtual herbarium of Legume type specimens at the Komarov Botanical Institute, Russian Academy of Sciences, St Petersburg (LE).

ROSCOV, SYTIN, YAKOVLEV and S. Jezniakovsky are starting work on a project to produce interactive keys for the legumes of the Russian flora.

SANJAPPA is working on the Flora of India, volume 6:(Caesalpinioideae, Mimosoideae and Papilionoideae (in part)) and volume 7: (Papilionoideae (in part)). Herbarium material of *Cochlianthus*, *Dalhousiea*, *Eleiotis* and *Leptodesmia* is required and herbarium material of Indian legumes are offered in exchange.

SUSO is studying gene flow and pollen dispersal in *Vicia faba* L.

TURNER is writing a book on the Legumes of Texas.

VANDERBORGHT is maintaining a *Phaseolus* - Phaseolinae collection, chiefly centred on wild *Phaseolus* and *Vigna* species. He offers and needs seed material of the same. A list of the 191 taxa included in the collection is available at: <http://www.br.fgov.be/RESEARCH/COLLECTIONS/LIVING/PHASEOLUS>

VASSAL is working on the producing technical sheets on *Acacia seyal* Delile. and *Acacia senegal* Willd. and writing an introduction to a book on *Acacia tortilis* *tortilis* subsp. *raddiana* (Savi) Brenan

WEDER is working on a project to identify legumes to species using molecular techniques (RAPD - PCR).

WESTON with CRISP, CHAPPILL, de Kok et al. are developing a LUCID identification system for Australian legumes.

## RECENT LEGUME LITERATURE

Ed. Note: Authors names in all capital letters are Bean Bag Readers. Their full names and addresses are listed in the Nov. 2000 Bean Bag Directory which will be available (shortly) on the www server of the Royal Botanic Gardens, Kew, United Kingdom. See "From the Editor" for the URL. All correspondence should be addressed directly to them.

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